CLAIMS:

1. A test method in an RF communication system in which at least one RF communication channel lies about a known carrier frequency in an RF communication band, the method comprising:

introducing into circuitry to be tested a diagnostic signal at an RF diagnostic frequency lying within the communication band; and

down converting the diagnostic signal to an intermediate frequency for diagnostic purposes after processing by the circuitry to be tested and wherein the diagnostic frequency is selected based on the known carrier frequency of the at least one communication channel such that the communication channel is not down converted with the diagnostic signal.

2. A test method according to claim 1 when operated at a transmitter wherein the diagnostic signal is introduced into transmission circuitry.

3. A test method according to claim 2 wherein the transmission circuitry comprises a linearised power amplifier which processes the at least one communication channel prior to transmission and wherein the diagnostic signal is removed from the communication band prior to transmission.

4. A test method according to claim 1 when operated at a receiver in a diagnostic environment wherein the diagnostic signal is received at receiving circuitry to be tested which also receives the at least one communication channel.

5. A test method according to claims 1, 2, 3 or 4 wherein the diagnostic signal is a tone.

6. A test method according to claim 1, 3 or 4 wherein the diagnostic signal is a test channel having a bandwidth comparable

to a communication channel.

7. A test method according to any preceding claims wherein the diagnostic signal is downcoverted using a downconverting signal at a frequency which is selected so that the intermediate frequency is fixed regardless of the diagnostic frequency.

8. A transmitter for an RF communication system comprising:

transmission circuitry for processing communication channels within an RF transmission band prior to transmission;

a controller for selecting the carrier frequency of at least one communication channel for transmission, the carrier frequency lying within an RF communication band, said controller also being operable to select a diagnostic frequency within the RF communication band for introducing a diagnostic signal at the diagnostic frequency into the transmission circuitry for test purposes;

and means for down converting the diagnostic signal to an intermediate frequency for diagnostic purposes after processing by the transmission circuitry wherein the diagnostic frequency is selected based on the known carrier frequency of the at least one communication channel such that the communication channel is not down converted with the diagnostic signal.

9. A transmitter according to claim 8 wherein the controller also selects a downconverting frequency for down converting the diagnostic signal such that the intermediate frequency is fixed regardless of the diagnostic frequency.

10. A transmitter according to claim 8, wherein the transmission circuitry comprises a linearised power amplifier.

11. A transmitter according to claim 8, 9 or 10 which comprises circuitry for cancelling the diagnostic signal prior to transmission.

12. A transmitter according to claim 8, 9, 10 or 11 which

comprises means for modulating the selected carrier frequency with a modulation signal representing data to be transmitted.

13. A test method in an RF communication system in which at least two RF communication channels respectively lying about known carrier frequencies are present in an RF communication band, the method comprising:

downconverting one of said RF communication channels to an intermediate frequency for diagnostic purposes using a downconverting signal, where the frequency of the downconverting signal is selected based on the known carrier frequencies of the communication channels such that the other communication channel is not downconverted with the downconverted communication channel as an image frequency.